Prairie Update

A publication of the Saskatchewan Watershed Authority **Volume 23 Spring 2005**

Missouri Coteau Range and Riparian Stewardship Project

The Saskatchewan Watershed Authority is leading the Missouri Coteau Range and Riparian Stewardship Project, a partnership between producer-based organizations and agencies to deliver a focused riparian, rangeland and tame forage management extension program for the Missouri Coteau in Saskatchewan.

"The Missouri Coteau covers over 5 million acres of southern Saskatchewan. About 31 per cent of this area remains in native range, which supports rich and diverse communities of plants and animals, particularly grassland birds and waterfowl," says Jody Oliver, Range Ecology Technician with SWA.

"We are working with producers in the Coteau to identify sustainable grazing management practices they can use in this unique area."

Partners in the project include the Saskatchewan Watershed Authority, Ducks Unlimited Canada, Agriculture and Agri-Food Canada – Prairie Farm Rehabilitation Association, and Saskatchewan Agriculture, Food and Rural Revitalization.

The project focuses on promoting and demonstrating environmentally, agriculturally and economically sustainable land use practices to producers that will provide healthy and functional riparian areas and rangelands as well as improving tame forage conditions. Through a co-ordinated effort, the partners will be able to work with producers to help them adopt positive management practices.

"Our goal is to work with producers that are interested in improving and adopting beneficial management practices for pasture management and protection," says Ross Macdonald, Range Agrologist with SWA.

The partners are working to develop stock watering demonstration sites with producers in the Coteau area, which will give others a chance to see the benefits of providing clean drinking water to livestock and improving the health of their riparian areas. Tours of the demonstration sites have been held through the past year, with more planned for the future.

In addition, the partners are hosting grazing management workshops in various communities in the Missouri Coteau and surrounding area. These workshops focus on beneficial management practices for pastures and livestock.

"We'll also be establishing grazing clubs to bring together producers to review the latest grazing management information, share their management experiences and inform us about their needs," says Oliver.

"Another exciting project we're working on with the co-operation of 4-H groups in Saskatchewan is developing a range plant component in the Provincial 4-H Judging competition. It's a great opportunity to teach young people about the link between healthy rangelands and beef production," says Macdonald.

Each partner group will contribute to the delivery of the Missouri Coteau Range and Riparian Stewardship Project, which has also received support from the Greencover Canada Program Technical Assistance Component.

For more information, contact Jody Oliver at (306) 694-3101.

Carrot River Producers Access Experts to Diversify

A group in east central Saskatchewan is exploring sustainable ways to diversify that are good for the land and add another one or two revenue streams from the same land parcel. Called Parkland Agro-forestry Inc., the group was formed five years ago and currently has about 30 members in an area enclosed by Nipawin, Naicam, Tisdale and Prince Albert.

Parkland Agro's members find and share market opportunities and assist each other in learning about sustainable forest management, short rotation woody crops and agro-forestry practices. They also work with government departments and agencies to access programs, to share information and to provide a land base for research. One of these programs is "The Carrot River Project," a partnership of federal and provincial departments, agencies and non-profit organizations involved in agriculture and the environment. The project's goal is to develop tools to encourage annual crop producers to adopt beneficial management practices when farming lands adjacent to watercourses.

Working with SIAST and the Saskatchewan Forest Centre in Prince Albert, Parkland Agro assessed the need for training development in the ag-forestry sector. They formed a co-operative grower group to produce and market hybrid poplar hardwood cuttings and are now moving into the area of silviculture — the management of tree stands with agriculture. This usually involves pasturing of livestock in an area containing tree stands while establishing a forage base within the stand. Under good management the result is three marketable end products — forage, livestock and trees — from the same piece of land. A fourth product can be added to this list if some of these are berry trees which provide an annual harvest. It's efficient, a good revenue mix and sustainable because it's also good for the land. Trees and forage areas can be established to take the best advantage of groundwater, runoff and prevailing winds to stabilize and regenerate the soil. Once established, these areas can provide shelter, shade and food for livestock. They can also help cut the wind and control runoff to assist adjacent cropped areas.

Marg and Bill Sullivan are Parkland Agro members. They have a cow-calf operation running 48 head of black Angus on a half section south of Melfort off highway #6.

"We rotate the cows on four paddocks and have several water sources. We're pretty efficient," said Marg Sullivan. Since they can't afford to reduce their herd to allow a tree plantation, they feel the silviculture route is their best option because it works with the cows.

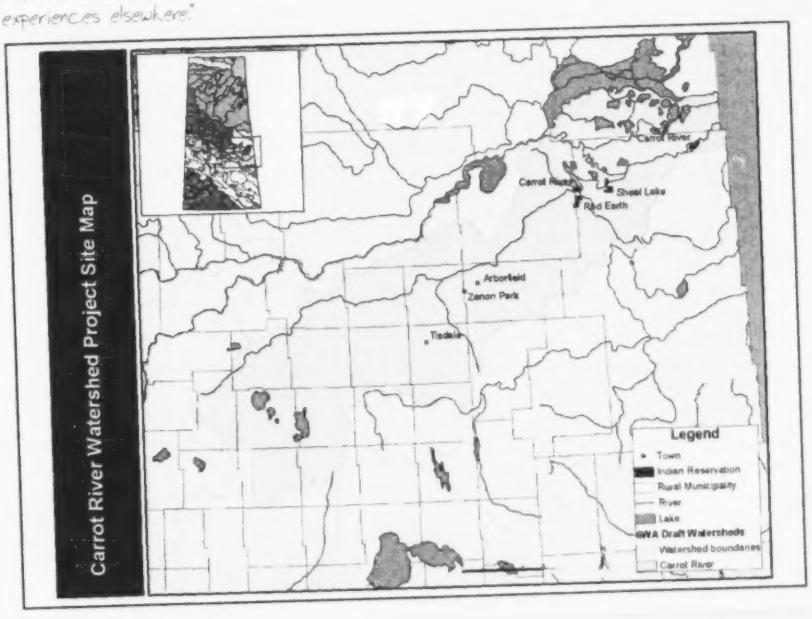
In 2000, the Sullivans established a one-acre stooling bed and began growing and marketing hybrid poplar cuttings they obtained through Agriculture and Agri-Food Canada's PFRA Shelterbelt Centre at Indian Head. These cottonwood-poplar hybrids are hardy and well suited to the local environment. They grow straight and fast, and can reach 35 feet and maturity in 15 years. It was this interest and the need to develop markets that brought the Sullivans into Parkland Agro. Since Parkland Agro is developing products and markets for non-traditional hardwoods like poplar, the Sullivans saw an opportunity to diversify even more.

"You start from an assessment of what you have and then design and implement a management plan," said Sullivan. "But it's a new thing for this area. Most information available is based on experiences elsewhere."

As a result, the Sullivans have developed their management plan based on a template developed by one of Parkland's members. The template helps interested producers to identify the types of trees on their land, assess marketable volumes and determine reclamation steps necessary. Sullivan says the template was needed because contracting to harvest timber on multi-use lands requires a different model than for large tracts of forest.

"Traditionally these companies will come in and clear cut the stand. It's a practice that works well on large, dedicated forestry areas, but it leaves farmland unusable because it has to be cleared and worked."

Sullivan sees market opportunities for private growers and value-added wood product industries. And she extols the benefits of having trees on the land to pull water up from deeper resources and provide erosion control. "Our soil is so sandy, you would look at it and wonder how we could grow trees there. But these hybrid poplars just take root, even through the drought," she said. She's positive about the economic benefits too, especially when producers adopt good management practices that make use of available assistance through initiatives like the Carrot River Project.



Managing the Water for the Benefit of Everyone

Chances are, geography class didn't teach you about the Suez Canal of Saskatchewan.

Saskatchewan's "Suez" carries water from Lake Diefenbaker to Lake Blackstrap and across the countryside to towns such as Viscount and Lanigan.

Officially, it's called the Saskatoon South East Water Supply System or SSEWS – pronounced soo-ss.

SSEWS includes 158 kilometres of canals, six reservoirs and a number of pipelines to convey millions of litres of water from a place of abundance to places of need.

In fact, Lake Diefenbaker provides water to almost half the homes in Saskatchewan, including the cities of Saskatoon, Regina, Moose Jaw and surrounding towns.

Another 40 per cent of the population get their water from underground, primarily through wells.

The remainder, about 15 per cent, derives water from other sources such as the Churchill River system in the north, from smaller streams and from dugouts and reservoirs.

"Since settlers first came here, they recognized the need to conserve their water supplies and to be careful how they use their water," says Bart Oegema, a senior hydrologist with the Saskatchewan Watershed Authority.

"Especially in the drier parts of the country, people realize they only get one shot at runoff, and that's during spring. So we better hold on to it if we can."

Holding onto the flow

There are hundreds of dams in Saskatchewan which collect water and hold it until it is needed, making it possible to regulate a consistent flow between peak times and dry times.

"We probably have more dams in Saskatchewan than in any other province in Canada due to our climate and the need to conserve water," says Bill Duncan, the Director of Infrastructure Management at the Saskatchewan Watershed Authority.

Duncan is responsible for the management, safety and repair of 45 dams including the two major earthworks on the South Saskatchewan River, the Gardiner and Qu'Appelle dams.

Completed in 1967, these two dams created Lake Diefenbaker, whose waters are put to work in many ways – farm irrigation, electrical generation, industrial uses, recreation and, of course, tap water in many homes.

Through the Qu'Appelle Dam, water is diverted into the Qu'Appelle River system which brings drinking water to Regina and Moose Jaw. It also supplies water for irrigation and market gardens, serves industries such as the potash mine at Belle Plaine, and maintains water levels in the lakes of the Qu'Appelle Valley.

"That infrastructure is of vital importance to the economy and the well-being of the province," says Duncan.

Keeping track

Most water projects in Saskatchewan are much less substantial, but no less important to individual landowners.

Almost every project that stores or diverts water requires a licence, and all that data is kept on file.

The Authority's database records 1,200 drainage projects, 13,500 surface water projects such as dams, and more than 120,000 wells and test holes based on drillers' logs.

"Landowners may want to know the likelihood of finding good quality water in their area, so before they dig a well, they can look to our database," says Tom Kaminski, Regulatory Coordinator at the Saskatchewan Watershed Authority.

The regulatory process has two steps: first, there is an approval to construct, based on plans and analysis, and second, there is the licence to operate which stipulates the amount of water that can be used.

"Some people are spending a large amount of money to develop these projects, and part of our job is to ensure they've covered all the bases so as not to put the project at risk down the road," says Kaminski.

Inevitably, there are competing interests in the water. Those interests are identified and debated in Advisory Committees, which have been established for the major watershed areas of the province.

The committees include farmers and other landowners, representatives of local governments, major industries, recreational users and environmental advocates.

"Often, we're balancing water supply, flood control and environmental interests," says senior hydrologist Oegema.

For example, one competing interest at Lake Diefenbaker is the Piping Plover.

"This is an endangered species, and we've been working real hard to manage this reservoir so we're not flooding the nests in springtime," he says. "We need to ask ourselves, how do we add this to the whole mix?

"All along, our intent has been to protect the water supply."

For more information check the "water management" category at www.swa.ca.

Focus On:
The Upper Qu'Appelle River Watershed

The Upper Qu'Appelle River Watershed incorporates a broad diversity of water users and water-related activities.

This Watershed is one of seven priority planning areas in the province. In the summer of 2004, public tours were conducted of the three existing planning units of the Upper Qu'Appelle River Watershed. These tours were designed to give participants a better understanding of water usage in their watershed. Since that time, a fourth planning unit encompassing the Wacana Creek area of the watershed has been established. If you are interested in more information on activities in the Upper Qu'Appelle River Watershed, please contact Sharon Rodenbush at (306) 787-0913.

1 Last Mountain Lake Watershed Monitoring

Last Mountain Lake is internationally recognized as an important area for wildlife, particularly for a variety of bird species. The lake is also a popular destination for visiting anglers and watersport enthusiasts. In the summer of 2002, the Last Mountain Lake Stewardship Group was formed due to residents' concerns about water quality in the lake. One activity the group became involved with is water quality monitoring at stations around the lake, including Grandview Beach. The group has partnered with the Saskatchewan Watershed Authority and Saskatchewan Environment to expand its role in water monitoring.

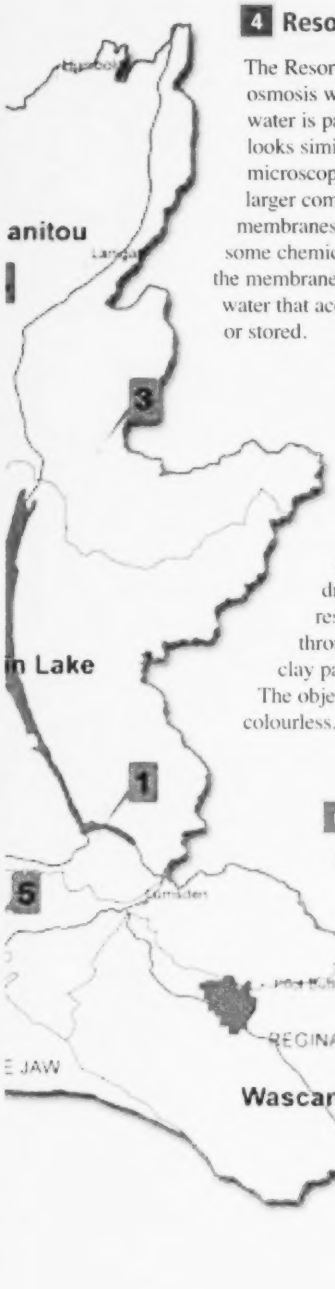
Photo courtesy of the Craik Sustainable Living Project

2 Craik EcoVillage Project

The Town of Craik and Rural Municipality of Craik No. 222 began development of a long-term plan for a sustainable community development project in 2001. This partnership emerged from a shared need for local and tangible initiatives that address climate change and have the potential to stimulate socio-economic revitalization in the community. Through this partnership the Craik Sustainable Living Project was formed. It is a non-profit organization which aims to advance the local use of more ecologically sound technologies and ways of living. The project also strives to serve as a model inspiring and enabling positive change in other communities in western Canada and elsewhere. One key activity within this vision is the development of an ecovillage, consisting of 10 to 12 families living sustainably. The EcoVillage was initiated during the summer of 2004.

3 Village of Nokomis

The Village of Nokomis obtains its community water supply from a local aquifer, which is located a mere six metres under the surface. The aquifer was discovered in the 1930s by the CN railroad, which used the water to power its steam engines. In 1961, the railway sold the water system to Nokomis for $750 and the town connected water and sewer to every home. The users of the aquifer have taken great care to protect the well site from contamination. The surrounding land is seeded to alfalfa, which is cut for hay, and all farm chemicals and fertilizers are banned. Livestock is also kept well away.



4 Resort Village of Manitou Beach

The Resort Village of Manitou Beach recently installed a reverse osmosis water treatment plant. During reverse osmosis filtration, water is passed from one side of a membrane (a plastic film that looks similar to cellophane) to the other. This membrane has microscopic openings that allow water molecules through, but not larger compounds such as contaminants. Some reverse osmosis membranes also have an electrical charge that helps in rejecting some chemicals at the membrane surface. As the water moves across the membrane, purer water collects on the other side. The purified water that accumulates on one side of the membrane can then be used or stored.

5 Buffalo Pound Water Treatment Plant

The Buffalo Pound Water Treatment Plant is situated on the east end of Buffalo Pound Lake, south of Buffalo Pound Provincial Park. The plant is designed to provide Regina and Moose Jaw with a reliable and affordable supply of safe, high-quality drinking water that meets the needs and expectations of residents. Raw water from Buffalo Pound Lake passes through stages of treatment that remove impurities such as clay particles, bacteria, algae and dissolved organic materials. The objective of this treatment is to produce water that is clear, colourless, odour-free, aesthetically pleasing and safe to drink.

6 Craig Hellings

Craig Hellings was concerned with the lake shore erosion and glacial slumping he was experiencing along his land at Buffalo Pound Lake. Determined to achieve a better end, Craig attended a meeting of the Qu'Appelle River planning unit of the Upper Qu'Appelle River Watershed. There, he became aware that the challenges he was facing were part of a larger series of issues affecting the entire watershed. Today, Craig is co-Chair of the Qu'Appelle River Watershed Advisory Committee, and is committed to helping the committee find a common denominator in its efforts to address source water protection issues and establish recommendations to ensure present and future safe water needs are met.

Tugaske Family Passionate About Habitat Restoration

Colette and Kevin Wilson of Tugaske believe there is no greater enjoyment for a grazier than to watch the grass grow back on a piece of land that used to be cultivated … and to witness what it can do for you.

Since 1999, the Wilsons and their five children have converted nearly 2,000 acres of farmland back to grass.

"The first year, we seeded 800 acres. Many of our neighbours were grain farmers who were not comfortable with the idea of grazing cattle on this land. People thought that to take so much land out of production at once was a huge risk. We went ahead anyway."

The seed mix included two pounds of alfalfa – half of a creeping root variety and half tap root that would go straight down to get the moisture; two pounds of meadow brome; one pound of Russian wild rye grass; and one pound of crested wheat grass.

"The first year was a great experience. We had timely rains and ideal temperatures. The agrologist from Ducks Unlimited reported it as a phenomenal stand, 15-17 plants per square foot. Every year is different. At first, you get predominantly legumes — alfalfa takes over. After a while, each particular seed variety will find its own little niche to grow."

Alfalfa stands mature out; the wheat grass establishes itself over rougher areas and sandy spots; and the meadow brome is king in places where the soil is of better quality and there is more abundant moisture.

"Pretty soon the burrowing owls started coming in. It turned into such a beautiful project. Since then, we have seeded up to 300 acres of land back to grass each year. We got help to buy seeds from the Saskatchewan Watershed Authority and acquired some tree seedlings from Agriculture and Agri-Food Canada's PFRA Shelterbelt Centre at Indian Head."

Tree species included Caragana, green ash, some chokecherries to attract the birds, as well as Sea buckthorn, willow and poplar varieties.

"We left an eight- to ten-foot buffer zone on each side of the trees, put in some fence posts and installed a single electric wire on both sides of the rows, powered by solar panels. We noticed at first how the protected grass around the trees trapped snow and how the trees themselves were doing the same as they grew. Pretty soon, this provided shelter for Hungarian partridges and even sharp-tailed grouse, which we never used to see around here. In the trees and grasses they all found cover from the hawks and became more difficult to find for foxes, coyotes, skunks and other predators. We even have ducks nesting there now."

"We took a half section of one of the most highly valued pieces of land in our area and turned it back to grass. Our neighbours were sceptical. We believe if it is good land for crops, it'll grow grass well too."

This was turning into an ambitious project, explains Kevin Wilson.

"We took a half section of one of the most highly valued pieces of land in our area and turned it back to grass. Our neighbours were sceptical. We believe if it is good land for crops, it'll grow grass well too. "

Kevin, Colette and their children aged five to thirteen all helped out with the project. First, a well one hundred feet deep was dug in the middle of the half section. It was fitted with a solar-powered pump that hauled water up 85 feet into two 400-gallon troughs installed on a concrete pad 32 feet wide by 40 feet long.

"We provide a clean, safe supply of water to our cattle – they deserve that. We split the half section into six paddocks of equal size - each with access to water – and we now rotate the cattle from paddock to paddock, as we monitor the pastures."

Colette admits one of the decisive influences on the implementation of their rotational grazing system was an exchange trip her husband took to New Zealand.

"Kevin had the chance to work on a sheep farm where he was exposed to rotational grazing practices. His hosts eventually came here and helped implement our paddock management plan. They also helped with the fencing work."

In many ways, this new orientation for their operation brings with it a much more vivid gratification for the work accomplished:

"When you are into intensive crop production, there is so much more than the grain aspects that must be taken into consideration. There are all the equipment costs and the thousands of dollars of input costs that really take away from what you are trying to achieve. I dream of us being able to get out of grain production altogether and enjoy being grass managers."

And when asked what impact the land stewardship approach has had on her and her family, here is what she has to say:

"The influence on our children is phenomenal. We had the kids helping us with fencing and the insulators. They checked the pumps. They have learned about solar energy and they've picked weeds around the trees. They have developed an appreciation for the land and the many animals that visit. They enjoy being in the pastures with Kevin. What an education it has been for them … and for us all, really."

There is no question that Colette and Kevin Wilson have committed themselves to a different approach to agricultural production – one that is in tune with the principles of biodiversity, and makes room for the protection of native and rare species such as the burrowing owl.

This project was completed in co-operation with Nature Saskatchewan with funding from the Government of Canada's Habitat Stewardship Program.

Cropland Conversion Benefits Producer, Wildlife

Through his efforts to conserve habitat for an endangered bird species, Ken Ball is also improving the condition of his pastures.

Ken and his wife Colleen run a mixed farming operation near Holdfast. Together with their son Jason, the couple runs 95 head of cattle on pastures that include both native and tame grass. Their land is also home to nesting grounds for endangered burrowing owls.

About 15 years ago, the Balls decided to take steps to protect the birds' habitat. More recently, Saskatchewan Watershed Authority was able to assist them in seeding 95 acres of cropland back to tame pasture and in constructing one mile of cross fence.

By increasing their tame forage capacity and installing new fencing, the Balls are able to defer grazing on their native prairie, which should improve its condition. Healthy native grass will not only provide excellent pasture for cattle, but it will also benefit wildlife, particularly the burrowing owls, by providing suitable nesting habitat.

To Ken, converting a portion of his cropland to tame forage made good sense.

"Most of the land that I've got here on the home section is marginal land to start with," says Ken. "This land is made for cattle."

Ball notes that the family is planning to expand their herd and seed more cropland to grass in the spring, while keeping a balance between cultivated acres and pasture. With this in mind, the productivity of his valuable native grass is very important to Ball.

"Native grass is the best. With my cows, they always do better when they're on native grass. And it doesn't seem like they need to use as much. I can put my cows on my native grass and you wouldn't think there was anything there. It's four inches high, and yet they're never hungry," says Ball.

To maximize productivity, Ball rotates his grazing schedule in order to give his native pastures sufficient rest during the early growing season. However, in recent years this has been difficult due to the lack of moisture.

"I've been keeping my cows off the native grass until June, and I rent some pasture that's native. I didn't put any cows in there until the 20th of July because I had lots of feed last year," says Ball.

"I try not to let them on one pasture too often. I've got three pastures at home, so I move them through on the pastures."

This project was completed in co-operation with Nature Saskatchewan with funding from the Government of Canada's Habitat Stewardship Program.

The Burrowing Owl

This small ground-dwelling owl is easily identified by its round head, white eyebrows, yellow eyes and long, stilt-like legs. The burrowing owl is almost always seen sitting on a post or at the entrance of a burrow. When flying after being disturbed it usually lands and "bobs" at the person or thing that disturbed it. For this reason it is sometimes referred to as the "howdy" owl. Burrowing owls prefer dry, open, treeless plains and pastures with short grass for nesting, but will forage over areas with taller and denser vegetation such as roadside ditches and areas near creeks and wetlands.

Hello Voluntary Stewards!

Thank you for taking the time to read the Spring 2005 edition of our newsletter. We hope you enjoyed the articles we have included in this newsletter and welcome any comments you have. While we try to focus on different areas or themes in each edition, such as a particular watershed for example, we are always open to suggestions for future issues.

As always, our sincere thanks go to the voluntary stewards who agreed to share their thoughts with us in the profiles contained in this newsletter. These are excellent examples of projects that provide benefits to both the landowner and the land and water they work on.

With the end of winter finally in sight, we are looking forward to a summer full of activities. Be sure to contact the Saskatchewan Watershed Authority staff person in your area to find out what's going on during this busy season!

You can find more information on the Prairie Stewardship Program in back issues of this newsletter. These issues, as well as interactive maps featuring other stewardship project demonstration sites, can be viewed on our Web site at www.swa.ca.

Ryan Lorge

Coming Events

For more information on upcoming events please contact the following:

Moose Jaw
Jody Oliver at 694-3101

North Battleford
Jeremy Brown at 446-7460

Regina
Etienne Soulodre at 787-0661

Swift Current
Bob Springer at 778-8301
Krista Cennick at 778-8280

Yorkton
Jason Puckett at 786-5845

Weyburn
Ross Macdonald at 848-2354

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Canadian Agricultural Rural Communities Initiative,
National Soil and Water Conservation Program and Prairie Farm Rehabilitation Administration
• California Waterfowl Association
• Canada Millennium Partnership Program
• Canadian Wildlife Service and World Wildlife Fund (Endangered Species Recovery Fund)
• Department of Fisheries and Oceans Canada
• Ducks Unlimited Canada
• Environment Canada through Eco-ACTION
• Government of Canada Habitat Stewardship Program for Species at Risk
• National Fish and Wildlife Foundation (U.S.)
• Native Plant Society of Saskatchewan
• Nature Conservancy of Canada
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• Prairie Conservation Action Plan
• Saskatchewan Agriculture, Food and Rural Revitalization
• Saskatchewan Energy
• Saskatchewan Environment through the Fish and Wildlife Development Fund
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• Sask Water
• TD - Canada Trust Friends of the Environment Foundation
• Tennessee Wildlife Resource Agency
• The Nature Conservancy (U.S.)
• Wildlife Habitat Canada
• World Wildlife Fund
• Wyoming Game and Fish Department

Share Your Ideas!

If you have comments or ideas about this newsletter, please contact Ryan Lorge at 787-6958 or e-mail: ryan.lorge@swa.ca.

For specific information about the Prairie Stewardship Program, please contact Jennifer Lohmeyer at 787-8707 or e-mail: jennifer.lohmeyer@swa.ca.

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